

WE CLAIM:

1. An elongated flexible lighting system, comprising:
an array of light sources that are illuminated by electric power;
an elongated translucent extrusion of flexible
5 material, said array of light sources integral to said extrusion, said extrusion transmitting and dispersing the light from said array giving the appearance that said array of light sources is a continuous light source.
2. The lighting system of claim 1, wherein said array of light sources is cuttable at intervals to shorten said array while allowing the remaining light sources in said array to emit light, said extrusion being cuttable to match
5 the length of said array.
3. The lighting system of claim 1, wherein said array of light sources comprises an array of light emitting diodes (LEDs).
4. The lighting system of claim 3, wherein said array of LEDs comprises a linear array of LEDs.
5. The lighting system of claim 3, wherein said array of LEDs comprises a plurality of parallel connected sub-arrays of LEDs, said electric power coupled across each of said plurality sub-arrays.
6. The lighting system of claim 5, further comprising a plurality of voltage regulators each of which is at a respective one of said parallel connected sub-arrays, each of said voltage regulators providing substantially similar

5 the same voltage to its respective sub-array.

7. The lighting system of claim 5, wherein said array of LEDs is cuttable between adjacent ones of said plurality of parallel connected sub-arrays.

8. The lighting system of claim 1, further comprising a mounting means.

9. The lighting system of claim 8, wherein said mounting means comprises a bracket.

10. The lighting system of claim 8, wherein said extrusion further comprises one or more longitudinal grooves, said mounting means comprising a bracket having one or more lips, each said lip arranged to mate with a respective one
5 of said grooves to hold said extrusion within said bracket.

11. The lighting system of claim 1, further comprising means for conducting said electrical power from said lighting system to another device.

12. The lighting system of claim 1, further comprising a flexible printed circuit material that is integral to said extrusion, wherein said array of light sources are mounted on said flexible printed circuit material.

13. The lighting system of claim 12, wherein said flexible printed circuit material is vertically mounted integral to said extrusion, said light sources emitting out the top of said extrusion.

14. The lighting system of claim 13, further comprising a

opaque strip in proximity to said flexible printed circuit material, said light sources arranged between said strip and printed circuit material and said strip and printed circuit material blocking light from emitting out the sides of said extrusion.

15. The lighting system of claim 12, wherein said flexible printed circuit material is horizontally mounted integral to said extrusion, said light sources emitting out the top of said extrusion.

16. The lighting system of claim 15, further comprising two opaque strips arranged on opposite sides of said light sources to block light from emitting out the sides of said extrusion.

17. The lighting system of claim 1, wherein said extrusion comprises silicone.

18. The lighting system of claim 1, wherein said extrusion further comprises a longitudinal cavity, light from light sources passing through and dispersed by said cavity.

19. A system for lighting structural features, comprising:
a plurality of elongated flexible lighting systems,
each of which comprises:

an array of light sources that are illuminated by electric power;

an elongated translucent extrusion of flexible material, said array of light sources integral to said extrusion, said extrusion transmitting and dispersing light from said array giving the appearance that said array of light sources is a continuous light source;

said flexible lighting systems coupled in a daisy-chain with the electrical power transmitted to each of said flexible lighting systems; and

15 a mechanism for anchoring said flexible lighting systems to a structure.

20. The system of claim 19, wherein each said array in each of said flexible lighting systems is cuttable at intervals while allowing the remaining light sources to emit light, said extrusion of each of said flexible
5 lighting systems being cuttable to match the length of said cut array.

21. The system of claim 19, wherein said array of each of said flexible lighting systems comprises an array of light emitting diodes (LEDs).

22. The system of claim 21, wherein said array of LEDs in each of said flexible lighting systems comprises a plurality of parallel connected sub-arrays of LEDs, said electric power coupled across each of said sub-arrays.

23. The system of claim 21, wherein said array of LEDs in each of said flexible lighting systems further comprises a plurality of voltage regulators to control the electrical power applied to array of LEDs.

24. The system of claim 19, wherein said anchoring mechanism comprises one or more brackets.

25. The system of claim 21, further comprising a plurality of flexible printed circuit materials, each said array of LEDs in each of said flexible lighting systems mounted one

of said flexible printed circuit materials, each of said
5 flexible printed circuit materials being integral to a said
extrusion.

26. The system of claim 19, wherein each said extrusion
further comprises a longitudinal cavity, said system
further comprising at least one joint tube passing between
two daisy-chained lighting systems, said joint tube
5 arranged within the said longitudinal cavities of said
daisy chained systems to connect the two together.

27. The system of claim 26, wherein said joint tube is
made of a vinyl.

28. The system of claim 19, further comprising at least
one joint cap, adjacent ends of said daisy-chained
extrusions mounted within said joint cap to connect said
extrusions.

29. The system of claim 28, wherein said joint cap
comprises a clear and flexible material.

30. The system of claim 19, further comprising at least
one to fit over an uncovered end of said extrusions in said
daisy-chained systems.

31. The system of claim 30, where said end cap is made of
a flexible material having the same color as said
extrusions.

32. An illuminated sign, comprising:
a plurality of elongated flexible lighting systems,
each of which comprises:

an array of light sources that are illuminated by
5 electric power;

an elongated translucent extrusion of flexible
material, said array of light sources integral to said
extrusion, said extrusion transmitting and dispersing
light from said array giving the appearance that said
10 array of light sources is a continuous light source;
said flexible lighting systems coupled in a daisy-
chain with the electrical power transmitted to each of said
flexible lighting systems; and

a mechanism for anchoring said flexible lighting
15 systems in the shape of sign features.

33. The sign of claim 32, wherein each said array in each
of said flexible lighting systems is cuttable at intervals
while allowing the remaining light sources to emit light,
said extrusion of each of said flexible lighting systems
5 being cuttable to match the length of said cut array.

34. The sign of claim 32, wherein said array of each of
said flexible lighting systems comprises an array of light
emitting diodes (LEDs).

35. The sign of claim 34, wherein said array of LEDs in
each of said flexible lighting systems comprises a
plurality of parallel connected sub-arrays of LEDs, said
electric power coupled across each of said sub-arrays.

36. The sign of claim 32, wherein said array of LEDs in
each of said flexible lighting systems further comprises a
plurality of voltage regulators to control the electrical
power applied to array of LEDs.

37. The sign of claim 32, wherein said anchoring mechanism comprises one or more brackets.

38. The sign of claim 34, further comprising a plurality of flexible printed circuit materials, each said array of LEDs in each of said flexible lighting systems mounted one of said flexible printed circuit materials, each of said
5 flexible printed circuit materials being integral to a said extrusion.

39. An elongated flexible lighting system, comprising:
a plurality of light emitting diodes (LEDs) emitting light in response to electrical power;
a plurality of electrical power regulators arranged so
5 that each of said plurality of LEDs is driven by substantially the same electrical power; and
an elongated translucent extrusion of flexible material, said plurality of LEDs integral to said extrusion and transmitting at least some light through at least some
10 of said extrusion, said extrusion dispersing the light from said array giving the appearance that said array of light sources is a continuous light source.

40. The lighting system of claim 39, wherein some of said plurality of LEDs can be separated from the others of said plurality of LEDs, the remaining of said plurality of LED emitting light.

41. The lighting system of claim 39, wherein said array of LEDs comprises a plurality of parallel connected sub-arrays of LEDs, said electric power coupled across each of said plurality sub-arrays, each of said electrical power
5 regulators a respective one of said sub-arrays.

42. The lighting system of claim 39, wherein each of said electrical power regulators is a voltage regulator.

43. The lighting system of claim 39, further comprising a flexible printed circuit material that is integral to said extrusion, wherein said LEDs are mounted on said flexible printed circuit material.

44. An elongated flexible lighting system, comprising:
a plurality of surface mount light emitting diodes (LEDs) emitting light in response to electrical power;
a flexible printed circuit material, said LEDs mounted
5 on said printed circuit material, said printed circuit material having redundant conductive traces to electrically interconnect said LEDs, the other of said conductive traces conducting power to said LEDs if one of said traces fails;
and

10 an elongated translucent extrusion of flexible material, said printed circuit material and LEDs integral to said extrusion and transmitting at least some light through at least some of said extrusion, said extrusion dispersing the light from said array giving the appearance
15 that said array of light sources is a continuous light source.

45. The lighting system of claim 44, wherein said redundant traces lead to each of the mounting locations for said LEDs from a different angle to reduce the danger that both traces would fail in response to bending of said
5 printed circuit material.

46. The lighting system of claim 44, wherein said

redundant traces lead to each of the mounting locations for said LEDs a 90° angle to the other to reduce the danger that both traces would fail in response to bending of said printed circuit material.

47. An elongated flexible lighting system, comprising:
a plurality of light sources emitting light in response to electrical power;
a flexible printed circuit material, said light sources mounted on said printed circuit material; and
an elongated translucent extrusion of flexible material, said printed circuit material and light sources integral to said extrusion and emitting light toward the top of said extrusion; and
at least one opaque strip arranged to block said light source light from emitting out the side surfaces of said extrusion, said extrusion dispersing the light source light emitting toward said extrusion top surface giving the appearance that said array of light sources is a continuous light source.

48. The system of claim 47, wherein said flexible circuit material mounted vertically, said at least one opaque strip comprising one strip vertically arranged such that said light sources are between said strip and said circuit material.